IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Inventors:	William R. VAN ETTEN, et al.	Group Art Unit: 3625	
Serial No.:	09/604,472	Examiner:	Naeem U. Haq
Filed:	June 27, 2000		
For:	INFORMATION TRANSLATION COMMUNICATION PROTOCOL		

AFFIDAVIT UNDER 37 C.F.R 1.132

I, THOMAS MCALEES, am over 21 years of age, and if called to testify would be competent to testify as to the following matters:

(1) I have been a software engineer and consultant for 18 years, attended college at the University of Delaware for Computer Science and I am one semester away from receiving my Bachelor of Science in Management of Information Systems from the State University of New York. During my career I have held a variety of titles including Software Engineer, Lead Application Architect, and VP of Engineering. The companies I have worked for span the range from small startup to Fortune 500 firms such as Xerox and Computer Sciences Corporation (CSC).

(2) My experience relevant to this case includes almost 10 years of object-oriented design and implementation experience. During this time I have worked with a variety of object-oriented technologies including C++, Java, and C#. I have also repeatedly confronted the object-to-relational impedance mismatch presented when using object-oriented programming languages with relational database technology. In my current role as the VP of Engineering I have overall responsibility for managing the development of catalog management systems incorporating databases to be accessible over networks including the Internet.

(3) I have never testified before or acted as an expert witness.

(4) I have been employed for 4 years as a Software Engineer and Consultant at ePlus, the Assignee of U.S. Patent Application No. 09/604,472 entitled "Information Translation Communication Protocol". I am being compensated for my time in preparing this Opinion by the Assignee, however I have no financial interest in the outcome of the prosecution of U.S. Patent Application No. 09/604,472.

(5) I am familiar with the prosecution history of Application No. 09/604,472: I have received copies of and read:

- the patent application filed on June 27, 2000;
- the first Office action mailed on March 30, 2004, and the references cited therein;
- the Applicants' response to the first Office Action filed on August 30, 2004;
- the second Office Action mailed on December 27, 2004 and the references cited therein; and
- the Applicants' response to the second Office Action filed concurrent herewith.

(6) I am fully familiar with and deal with the following technologies on a daily basis:

- object-oriented application design and development;
- relational database design and development;
- object-to-relational mapping approaches and technologies;
- development and use of business rules; and
- business rules to develop catalog management applications, in particular the use of business rules to control user search, retrieval, storage, transfer and presentation of retrieved information where the latter includes the formatting of reports.

In my opinion, the inheritance hierarchy taught by the IBM reference and alleged by the Examiner to be the same as the catalog item structure having class, attribute and value relationships disclosed and claimed by the present invention is not the same as this catalog item structure. Support for each difference is provided in the detailed analysis section following this summary.

The subject of IBM's article titled "Object persistence in object-oriented applications" (http://www.research.ibm.com/journal/sj/361/srinivasan.html) is the persistence of object-oriented programming constructs to a relational or non-relational database. The relevance of this article is dependent on the assertion that the catalog item structure referenced in Claims 17-25 is an object-oriented approach. The following section defines the term object-oriented and demonstrates why the catalog item structure presented in Claims 17-25 is not object-oriented in nature.

Object-oriented is defined as an organization of data into a collection of discrete objects that incorporate both data structure and behavior. The characteristics of object-oriented systems generally include four aspects: identity, classification, polymorphism, and inheritance. A brief review of these aspects ensues.

Identity means that data is quantized into discrete, distinguishable entities called objects. Each object has its own inherent identity. In other words, two objects are distinct even if all their attribute values are identical.

Classification means that objects with the same data structure and behavior are grouped into a class. Each class describes a possibly infinite set of individual objects, where the objects are said to be an instance of its class.

Polymorphism means that the same operation may behave differently on different classes. An operation is an action or transformation that an object performs or is subject to. A specific implementation of an operation by a certain class is called a method. And by supporting more than one implementation of an operation, an object-oriented solution supports polymorphism.

Inheritance is the sharing of attributes and operations among classes based on a hierarchical relationship. A class can be defined broadly and then refined into successively finer subclasses. Each subclass incorporates, or inherits, all of the attributes and operations of its superclass and adds its own unique attributes and operations.

Upon comparing the above characteristics of an object-oriented system with the catalog item structure presented in Claims 17-25, I note that the only similarities are the use of the terms *class* and *attribute*. However, these terms are not used in a similar manner to the definitions presented above for an object-oriented system. The term *class,* as it is used in Claims 17-25, refers to an arrangement of catalog items in a hierarchical fashion that is not unlike a hierarchical file system. The term *class* is not used to identify unique data structure or behavior since all catalog items are structurally identical and have the same behavior.

I respectfully point out that the Examiner has misconstrued the nature of the well known object-relational impedance mismatch. An impedance mismatch occurs when you need to map objects used in an OO software application to tables stored in a relational database. Mapping objects to tables and vice versa creates a performance disadvantage when you have complex data. Given that the catalog item structure disclosed and claimed by the present invention is not either claimed or disclosed to be an OO class, and as argued above is NOT amenable to being defined as an OO class, contrary to the allegation of the Office Action, one skilled in the art would not be motivated to use OO to implement the claimed catalog structure of the present invention because doing so introduces a well known impedance mismatch between the OO used by an application that implements the present claimed invention and the relational data model disclosed and claimed by the present invention which must then be overcome as a result of using OO technology. There is NO impedance mismatch inherent in the disclosure of the present invention or the recited claims. Any impedance mismatch results from the Examiner's hypothetical imposition of an OO implementation on the present invention, which invention discloses and claims a relational database.

I respectfully point out that the Examiner's reference to IBM's teachings on object-oriented databases is not applicable for this invention as the invention is not based on an object-oriented design. An object-oriented database management system (OODBMS) makes database objects appear as programming language objects, thereby eliminating the object-to-relational impedance mismatch. As stated above, the present invention does not warrant or leverage an object-oriented design and therefore an OODBMS cannot be considered a workable solution in the present invention. It is my opinion that an object-oriented design paired with an OODBMS would be an inappropriate solution since it would introduce a great deal of overhead with no recognizable benefits to the invention.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful statements may jeopardize the validity of the application or any patent issuing thereon.

TOM McALEES

4/18/2005

DATE

RECHABA COLLINS
Notary Public, State of New York
My Commission Expires Dec. 3, 2008